REMARKS

In their originally-filed claims, inventive entity (hereinafter "Applicant") paid for 65 claims and 7 independent claims. For economic reasons, in the originally filed case Applicant had constructed dependent claims to have "groups" in various of the claimed inventions.

On 28 August 2002, Examiner issued a 4-way restriction requirement. Applicant elected Group II, which resulted in Claims 23-46 remaining in the case. Insofar as Applicant had originally paid for Examiner to examine 65 claims and 7 independent claims, Applicant has herein by amendment unpacked the various groups in independent claims into separate claims, and has independently argued the patentability of the majority of such separate claims.

## I. ARGUMENT: ART OF RECORD DOES NOT ESTABLISH *PRIMA FACIE* CASE OF UNPATENTABILITY

Examiner Nasser (hereinafter "Examiner") has stated "[c]laims 23-25, 27-30, 32, 34-37, 39-42, 44, and 46 are rejected under 35 U.S.C. 102() as being anticipated by Loedding et al. [U.S. Patent No. 5,156,776]." *Examiner's Office Action* 2 (27 January 2002). Examiner also stated "[c]laims 26, 31, 38, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Loedding et al. in view of" Examiner's personal knowledge. *Id.*[1] In response, the inventive entity (hereinafter "Applicant") respectfully asserts herein that, under the MPEP and legal standards for patentability as set forth below, the art of record does not establish a *prima facie* case of the unpatentability of Applicant's claims at issue. Specifically, Applicant respectfully shows below that the art of record does not show or suggest the recitations of Applicant's claims at issue, and hence fails to establish a *prima facie* case of unpatentability. Accordingly, Applicant respectfully requests that the Examiner withdraw his rejections of Applicant's claims at issue, and hold all claims to be allowable over the art of record.

### A. MPEP Standards for Patentability[2]

The MPEP states as follows: "the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. If that burden is met, the burden of coming forward with evidence or argument shifts to the applicant. . . If examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent." *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992)); *In Re Glaug* *5 (Fed. Cir., 15 March 2002) (Fed. Cir. BBS). ("During patent examination the PTO bears the initial burden of presenting a *prima facie* case of unpatentability. *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 U.S.P.Q. 785, 788 (Fed. Cir. 1984). If the PTO fails to meet this burden, then the applicant is entitled to the

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[1] Applicant hereby expressly challenges Examiner's personal knowledge, and asks for objectively verifiable evidence of such personal knowledge, in accordance with the MPEP standards set forth below.

[2] Applicant is aware that Examiner may be familiar with the MPEP standards. Applicant is merely setting forth the MPEP standards to serve as a framework for Applicant's arguments following and to ensure a complete rewritten record is established. Should the Examiner disagree with Applicant's characterization of the MPEP standards, Applicant respectfully requests correction.

patent."). Accordingly, unless and until an examiner presents evidence establishing *prima facie* unpatentability, an applicant is entitled to a patent on all claims presented for examination.

### 1. MPEP Standards for Determining Anticipation

An examiner bears the initial burden of factually supporting any *prima facie* conclusion of anticipation. *In Re Skinner*, 2 U.S.P.Q.2d 1788, 1788-89 (B.P.A.I. 1986); *MPEP* § 2107 (citing *In re Oetiker*, 977 F.2d 1443, 1445, 24 U.S.P.Q.2d 1443, 1444 (Fed. Cir. 1992) ("[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability. . . .")). Failure of an examiner to meet this burden entitles an applicant to a patent. *Id.* ("[i]f examination at the initial stage does not produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent").

The MPEP indicates that in order for an examiner to establish a *prima facie* case of anticipation of an applicant's claim, the examiner must first interpret the claim,[3] and thereafter show that the cited prior art discloses the same elements, in the same arrangement, as the elements of the claim which the examiner asserts is anticipated. More specifically, the MPEP states that "[a] claim is anticipated *only if each and every element as set forth in the claim is found*, either expressly or inherently described, in a single prior art reference. . . . The identical invention must be shown in as complete detail as is contained in the . . . claim. . . . The elements must be arranged as required by the claim . . . .". *MPEP* § 2131. Consequently, under the guidelines of the MPEP set forth above, if there is *any* substantial difference between the prior art cited by an examiner and an applicant's claim which the examiner asserts is rendered obvious by the prior art, the prior art does NOT establish a *prima facie* case of anticipation and, barring other rejections, the applicant is entitled to a patent on such claim.

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[3] With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow, in light of the specification, when read by one skilled in the art with which the claimed invention is most closely connected. *MPEP* § 2111.

### 2. MPEP Standards for Determining Obviousness

"[T]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness."[4] *MPEP* § 2142. The MPEP indicates that in order for an examiner to establish a *prima facie* case that an invention, as defined by a claim at issue, is obvious the examiner must (1) interpret the claim at issue; (2) define one or more prior art reference components relevant to the claim at issue; (3) ascertain the differences between the one or more prior art reference components and the elements of the claim at issue; and (4) adduce objective evidence which establishes, under a preponderance of the evidence standard, a teaching to modify the teachings of the prior art reference components such that the prior art reference components can be used to construct a device substantially equivalent to the claim at issue. This last step generally encompasses two sub-steps: (1) adducement of objective evidence teaching how to modify the prior art components to achieve the individual elements of the claim at issue; and (2) adducement of objective evidence teaching how to combine the modified individual components such that the claim at issue, as a whole, is achieved. *MPEP* § 2141; *MPEP* § 2143. Each of these forgoing elements is further defined within the MPEP. *Id.*

#### a) Interpreting a Claim at Issue

With respect to interpreting a claim at issue, the MPEP directs that, during examination -- as opposed to subsequent to issue -- such claim be interpreted as broadly as the claim terms would reasonably allow when read by one skilled in the art with which the claimed invention is most closely connected. In practice, this is achieved by giving each of the terms in the claim the "plain meaning" of the terms as such would be understood by those having ordinary skill in the art, and if portions of the claim have no "plain meaning" within the art, or are ambiguous as used in a claim, then the examiner is to consult the specification for clarification. *MPEP* § 2111.

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[4] An invention, as embodied in the claims, is rendered obvious if an examiner concludes that although the claimed invention is not identically disclosed or described in a reference, the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *MPEP* § 2141 (citing 35 U.S.C. § 103).

### b) Definition of One or More Prior Art Reference Components Relevant to the Claim at Issue

Once the claim at issue has been properly interpreted, the next step is the definition of one or more prior art reference components (*e.g.*, electrical, mechanical, or other components set forth in a prior art reference) relevant to the properly interpreted claim at issue. With respect to the definition of one or more prior art reference components relevant to the claim at issue, the MPEP defines three proper sources of such prior art reference components, with the further requirement that each such source must have been extant at the time of invention to be considered relevant. These three sources are as follows: patents as defined by 35 U.S.C. § 102, printed publications as defined by 35 U.S.C. § 102, and information (*e.g.*, scientific principles) deemed to be "well known in the art"[5] as defined under 35 U.S.C. § 102. *MPEP* § 2141.

### c) Ascertainment of Differences Between Prior Art Reference Components and Claim at Issue; Teaching to Modify and/or Combine Prior Art Reference Components to Remedy Those Differences in Order to Achieve Recitations of Claim at Issue

With one or more prior art components so defined and drawn from the proper prior art sources, the differences between the one or more prior art reference components and the elements of the claim at issue are to be ascertained. Thereafter, in order to establish a case of *prima facie* obviousness, an examiner must set forth a rationale, supported by objective evidence[6] sufficient to demonstrate under a preponderance of the evidence standard, that in the prior art extant at the time of invention there was a teaching to modify and/or combine the one or more prior art reference components to construct a device practicably equivalent to the claim at issue.

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[5] The fact that information deemed to be "well known in the art" can serve as a proper source of prior art reference components seems to open the door to subjectivity, but such is not the case. As a remedy to this potential problem, *MPEP* § 2144.03 states that if an examiner asserts that his position is derived from and/or is supported by a teaching or suggestion that is alleged to have been "well known in the art," and that if an applicant traverses such an assertion (that something was "well known within the art"), the examiner must cite a reference in support of his or her position. The same MPEP section also states that when a rejection is based on facts within the personal knowledge of an examiner, the data should be stated as specifically as possible, and the facts must be supported, when called for by the applicant, by an affidavit from the examiner. Such an affidavit is subject to contradiction or explanation by the affidavits of the applicant and other persons. *Id.* Thus, all sources of prior art reference components must be objectively verifiable.

[6] The proper sources of the objective evidence supporting the rationale are the defined proper sources of prior art reference components, discussed above, with the addition of factually similar legal precedent. *MPEP* § 2144.

The preferable evidence relied upon is an express teaching to modify/combine within the properly defined objectively verifiable sources of prior art. In the absence of such express teaching, an examiner may attempt to establish a rationale to support a finding of such teaching reasoned from, or based upon, express teachings taken from the defined proper sources of such evidence (*i.e.*, properly defined objectively verifiable sources of prior art). *MPEP* § 2144; *In re Dembcizak*, 50 U.S.P.Q.2d 1614 (Fed. Cir. 1998).

The MPEP recognizes the pitfalls associated with the tendency to subconsciously use impermissible "hindsight" when an examiner attempts to establish such a rationale. The MPEP has set forth at least two rules to ensure against the likelihood of such impermissible use of hindsight. The first rule is that:

> under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical "person of ordinary skill in the art" when the invention was unknown and just before it was made. In view of all factual information,[7] the examiner must then make a determination whether the claimed invention "as a whole" would have been obvious at that time to that person. Knowledge of an Applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the "differences," conduct the search, and evaluate the "subject matter as a whole" of the invention. The tendency to resort to "hindsight" based upon an Applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art.

*MPEP* § 2142 (emphasis added). Thus, if the only objective evidence of such teaching to modify and/or combine prior art reference components is an applicant's disclosure, no evidence of such teaching exists.[8]

The second rule is that if an examiner attempts to rely on some advantage or expected beneficial result that would have been produced by a modification and/or combination of the prior art reference components as evidence to support a rationale to establish such

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[7] "Factual information" is information actually existing or occurring, as distinguished from mere supposition or opinion. *Black's Law Dictionary* 532 (5th ed. 1979).

[8] An applicant may argue that an examiner's conclusion of obviousness is based on improper hindsight reasoning. However, "[a]ny judgment on obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." *MPEP* § 2145(X)(A) (emphasis added).

teachings to modify and/or combine prior art reference components, the MPEP requires that such advantage or expected beneficial result be objectively verifiable teachings present in the acceptable sources of prior art (or drawn from a convincing line of reasoning based on objectively verifiable established scientific principles or teachings). *MPEP* § 2144. Thus, as a guide to avoid the use of impermissible hindsight, these rules from the MPEP make clear that absent some objective evidence, sufficient to persuade under a preponderance of the evidence standard, no teaching of such modification and/or combination exists.[9]

### B. Art of Record Does Not Establish *Prima Facie* Case of Unpatentability of Any of Applicants' Claims at Issue

As set forth above, the MPEP guidelines clearly establish that unless and until Examiner establishes a *prima facie* case of unpatentability on each claim, Applicant is entitled to a patent on such claim. Applicant respectfully points out that Examiner has not examined the claim language of any pending claim, and for that reason alone Applicant asserts that Examiner

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[9] *In Re Sang Su Lee* *7-8 (Fed. Cir. 18 January 2002) (Fed.Cir. BBS) ("When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness.") *See, e.g., McGinley v. Franklin Sports, Inc.*, 262 F.3d 1339, 1351-52, 60 U.S.P.Q.2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] references," a question of fact drawing on the *Graham* factors). *"The factual inquiry whether to combine references must be thorough and searching." Id. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000) ("a showing of a suggestion, teaching, or motivation to combine the prior art references is an 'essential component of an obviousness holding'") (quoting *C.R. Bard, Inc., v. M3 Systems, Inc.*, 157 F.3d 1340, 1352, 48 U.S.P.Q.2d 1225, 1232 (Fed. Cir. 1998)); *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Dance*, 160 F.3d 1339, 1343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998) (there must be some motivation, suggestion, or teaching of the desirability of making the specific combination that was made by the applicant); *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988) ("'teachings of references can be combined only if there is some suggestion or incentive to do so.'") (emphasis in original) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984)). The need for specificity pervades this authority. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371, 55 U.S.P.Q.2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed"); *In re Rouffet*, 149 F.3d 1350, 1359, 47 U.S.P.Q.2d 1453, 1459 (Fed. Cir. 1998) ("even when the level of skill in the art is high, the Board must identify specifically the principle, known to one of ordinary skill, that suggests the claimed combination. In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious.").

has failed to establish his requisite *prima facie* case of unpatentability. Consequently, as explained by the MPEP, Applicant is entitled to a Notice of Allowability on all pending claims.

In his Office Action, Examiner declined to follow the MPEP guidelines, set forth above, regarding the examination of claims, and instead rejected all of Applicants' pending claims based on blanket statement regarding the art relied upon by Examiner -- without any reference whatsoever to Applicant's claim recitations. Applicant demonstrates below that as a consequence of Examiner's failure to follow the MPEP guidelines, Examiner has not established a *prima facie* case of the unpatentability of any pending claim. Consequently, Applicant respectfully requests that Examiner hold all claims allowable.

### 1. Rejections Based on Loedding

Applicant respectfully points out that Examiner did not examine the recitations of Applicant's Claim 23. Applicant shows below that had Examiner examined the recitations of Applicant's Claim 23, Examiner would have noted that Loedding does not show or suggest at least the first clause of Claim 23. Accordingly, the art of record does not establish a *prima facie* case of the unpatentability of Claim 23.

Applicant also shows below that Claims 24-34 and 66-99 depend from Claim 23. Accordingly, Applicant shows below that Claims 24-34 and 66-99 are allowable for at least the reasons of such dependencies.

Applicant also shows below that Examiner has cited no art showing the recitations of Claims 24-34 and 66-99. Accordingly, Applicant also shows below that Claims 24-34 and 66-99 are independently patentable over the art of record, irrespective of such dependencies.

#### a) Recitations of Claim 23

Claim 23 recites as follows: "a method comprising: [a] automatically controlling an environment of an inhalant chamber; and [b] automatically controlling a concentration of an inhalant in the inhalant chamber."

#### b) Art Identified by Examiner

With respect to Claim 23, Examiner has stated as follows:

> Loedding shows an inhalation chamber and it controls both the concentration of inhalant in the chamber based on the signal from a sensor, and the flow rate of air through the device based on a volume signal. It further displays the do[s]e and flow rate data.

*Examiner's Office Action* 2 (27 Dec. 2002) (emphasis added). On the basis of the foregoing statement, Examiner rejected Applicant's Claim 23. *Id.* Applicant respectfully points out that Loedding does not teach as Examiner recites, as can be seen from Figure 1 and the following quotation from Loedding:

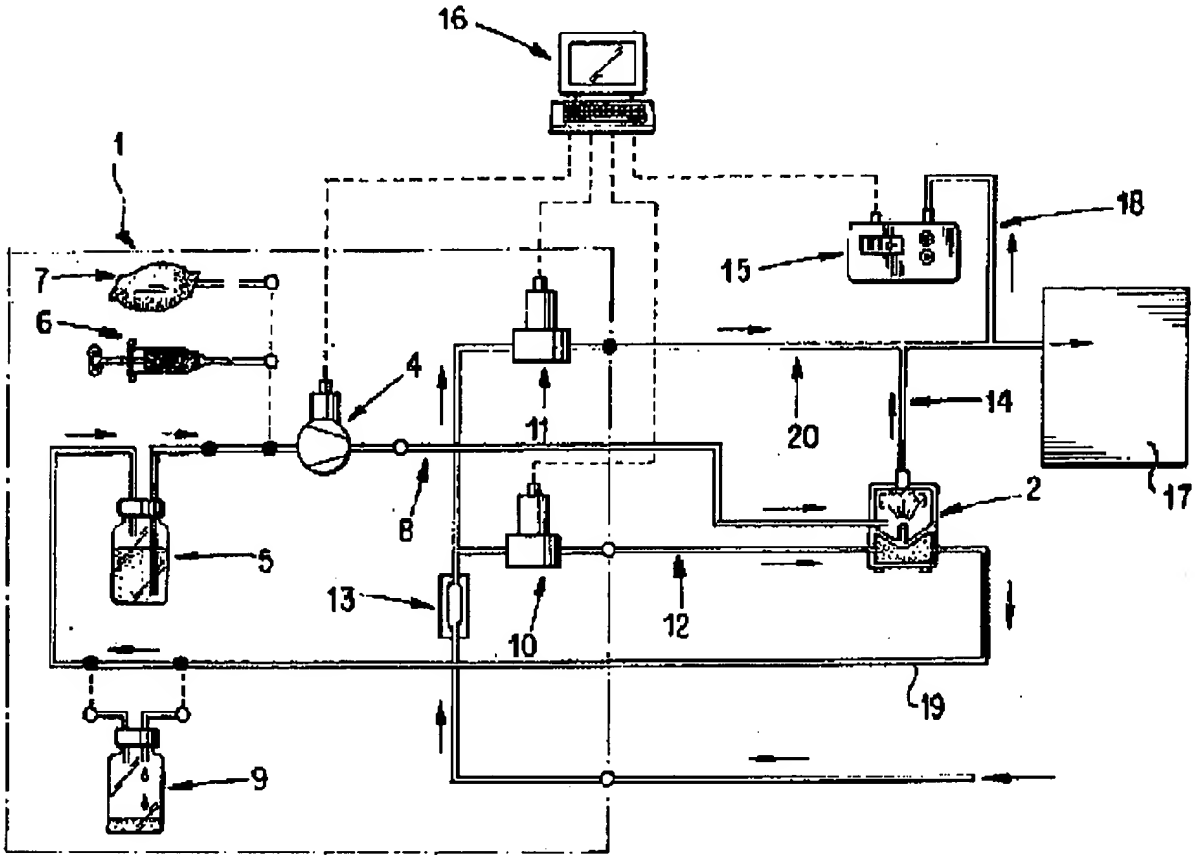


FIG. 1

> FIG. 1 schematically depicts a preferred embodiment of the invention comprising an integrated dosing unit and illustrates the operation of the aerosol generating system of the invention. In FIG. 1, .... the air supply to the atomizer 2 is delivered through a duct system 12. **The duct system 12 provides the atomizer 2 with the amount of air necessary to form the aerosol.** A mass flow controller 10 is provided to regulate the amount of air supplied. An aerosol duct 14 carries the aerosol stream that is formed in the nebulizer to an inhalation chamber 17.

> **Additional air can be introduced through dilution air duct 20 into aerosol duct 14 to dilute the aerosol to a desired concentration.** The amount of additional air introduced through dilution air duct 20 is regulated by a second mass flow controller 11. In an advantageous configuration a filter 13 for cleaning the air is arranged in the duct system 12 upstream of the mass flow controllers 10 and 11.

*Loedding* at col. 6, line 32 - col. 7, line 29.

**c) Art Does Not Show or Suggest at Least Clause [a] of Claim 23**

Clause [b] of Claim 23 recites "automatically controlling a concentration of an inhalant in the inhalant chamber." It is Applicant's understanding that Examiner is asserting that the foregoing quoted portions correlate with the recitations of clause [b].[10] However, Applicant respectfully points out that Claim 23 includes both the recitations of clause [b] and clause [a].

Clause [a] recites "automatically controlling an environment of an inhalant chamber." As has been noted, Examiner has declined to follow the MPEP rules requiring that the language of the claims be examined, and because of this Examiner has failed to adduce any evidence showing the recitations of clause [a] of Applicant's Claim 23.

Insofar as Examiner has only identified art related to Clause [b] of Claim 23, Examiner has not identified any art of record related to clause [a] of Claim 23. Accordingly, under the MPEP guidelines above, Examiner has not established a *prima facie* case of the unpatentability of Claim 23.

Applicant acknowledges that, as set forth above, Loedding discloses "air introduced through dilution air duct 20 into aerosol duct 14 to dilute the aerosol to a desired concentration." *Loedding* col. 7, lines 27-29. Applicant also acknowledges that one example of "controlling an environment of an inhalant chamber," as set forth in Claim 23, is that of "maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow in to the inhalant chamber" such as recited in Applicant's dependent Claim 74. However, Applicant points out that the control of the air flow of Loedding is, by its own terms, "to dilute the aerosol of Loedding to a desired concentration." Applicant expressly points

[10] As noted above, in Examiner's rejection Examiner did not explicitly examine the recitations of Applicant's Claim 23, and thus Applicant is not exactly sure to which recitations Examiner's rejection refers. If Applicant has guessed incorrectly, Applicant requests correction from Examiner.

out that, by its own internal logic, the term "environment" in Claim 23 is *different from* the term "concentration" in Claim 23. Thus, as can be seen Loedding's method expressly does not and cannot provide "environment" control separate from "concentration" control, which is one advantage that Applicant's claimed invention provides over the prior art. Accordingly, insofar as no art has been yet identified in relation to clause [a] of Claim 23, the art of record does not establish a *prima facie* case of anticipation of Claim 23. Consequently, Applicant respectfully asks that Examiner hold Claim 23 allowable over Loedding.

**d) Claims 24-34 and 66-99 Are Allowable for at Least the Reasons That Such Claims Depend From Claim 23**

Claims 24-34, and 66-99 depend either directly or indirectly from Independent Claim 23. "A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." 35 U.S.C. § 112, paragraph 4. Consequently, Dependent Claims 24-34, and 66-99 are not rendered obvious by the art of record for at least the reasons why Independent Claim 23 is not rendered obvious by the art of record. Accordingly, Applicant asks that the Examiner and hold Claims 24-34, and 66-99 allowable over Loedding.

**e) Claims 24, 66-67 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 24 recites "the method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises: maintaining an environmental factor via feedback control, *wherein the environmental factor includes a pressure of the inhalant chamber.*" Claim 66 recites "the method of Claim 24, wherein said maintaining an environmental factor via feedback control . . . comprises: *controlling the environmental factor via monitoring a pressure sensor of the inhalant chamber.*" Claim 67 recites "the method of Claim 66, wherein said controlling the environmental factor via monitoring a pressure sensor comprises: *controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the pressure sensor and adjusting a pressure driver.*"

The art of record does not show or discuss at least the foregoing italicized recitations of Claim 24, 66, and 67. The teachings of Loedding with respect to pressure can be most easily understood in reference to Figure 2, and its supporting text, of Loedding:

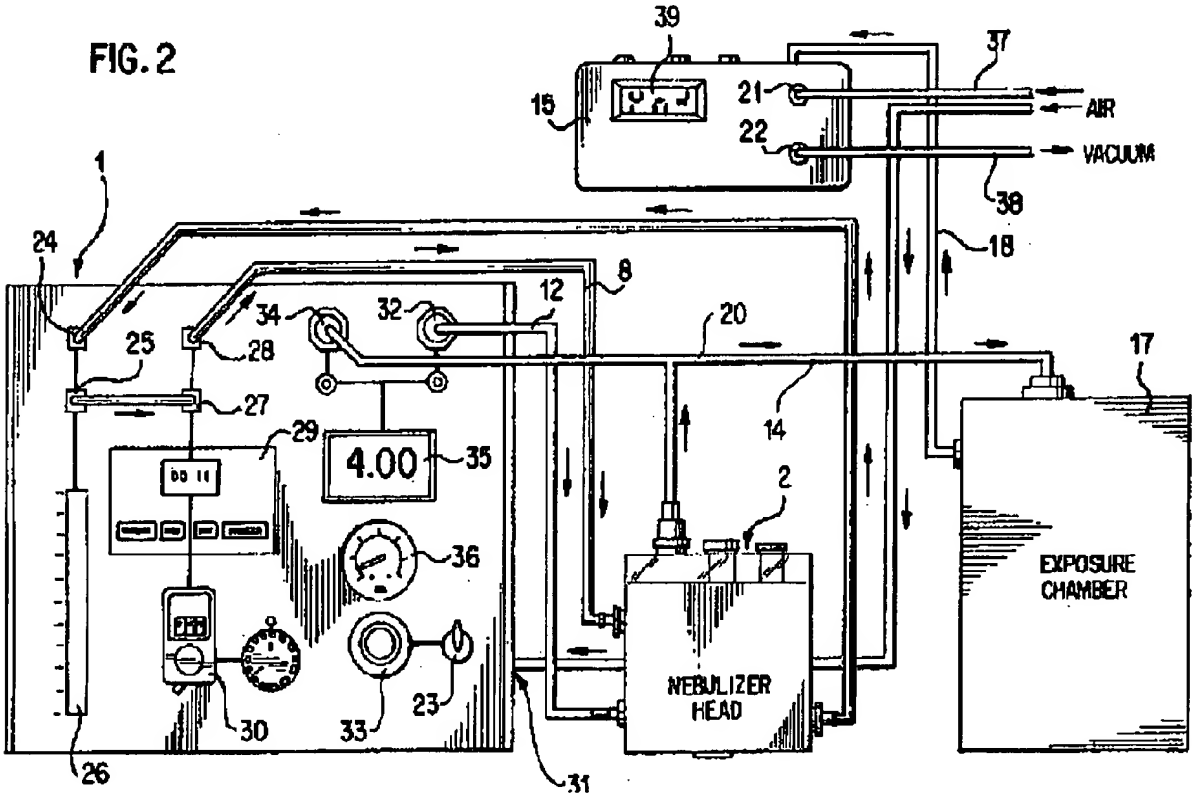


FIG. 2 shows the construction of an illustrative embodiment of the inhalation system depicted in FIG. 1. In FIG. 2, the reference numbers are the same as used in the schematic diagram of FIG. 1. The microdosing pump and mass flow regulators are contained in an integrated dosing unit 1 which is connected to the atomizer 2 by air supply duct 12 and liquid supply line 8. The aerosol is conveyed from the nebulizer 2 through aerosol duct 14 to aerosol exposure chamber 17. In the embodiment of FIG. 2, the chamber 17 is connected by line 18 to the measuring device 15. The measuring device 15 also includes an air supply connection 21 and a vacuum connection 22 for establishing an air flow through the measuring device which aspirates an aerosol sample to be measured into the photometer 15 through line 18.

As shown in FIG. 2, the aerosol generator system according to the invention comprises an on/off power switch 23, a liquid supply reservoir inlet 24, a liquid supply reservoir outlet 25, a reservoir fill level indicator 26, a pump inlet 27, a pump outlet 28, a control timer 29 with an adjustment control, an adjustable pump controller 30 with a pump rate indicator and settings for manual on/off control,

> timer control, or computer control operation, a compressed air inlet 31, an atomizer air outlet 32, controls 33 for the compressed air mass flow regulator and dilution air mass flow regulator, a dilution air outlet 34, an air flow gauge 35, and a manometer 36 for measuring the air pressure.

*Loedding*, col. 4, lines 38-50.

As shown from the foregoing, Applicant points out that the *manometer 36 is part of* the "*integrated dosing unit 1* which is connected to the atomizer 2 by air supply duct 12 and liquid supply line 8. . . . [and that] the aerosol is conveyed from the nebulizer 2 through aerosol duct 14 to aerosol exposure chamber 17. . . . [where] the chamber 17 is connected by line 18 to the measuring device 15 . . . . [which] includes an air supply connection 21 and a vacuum connection 22 for establishing an air flow through the measuring device which aspirates an aerosol sample to be measured into the photometer 15 through line 18." *Hence*, the *manometer 36 of Loedding is* in Loedding's "integrated dosing unit 1" and *not in Loedding's "aerosol exposure chamber 17," and hence does not monitor pressure in Loedding's "aerosol exposure chamber 17."* Consequently, Loedding does not and cannot teach at least the foregoing italicized recitations of Applicant's Claims 24, 66, and 67. Thus Applicant respectfully asks Examiner to allow Claims 24, 66, and 67 over Loedding for at least the foregoing reasons.

**f) Claims 68-70 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 68 recites "the method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises: maintaining an environmental factor via feedback control, *wherein the environmental factor is a temperature of the inhalant chamber.*" Claim 69 recites "the method of Claim 68, wherein said maintaining an environmental factor via feedback control . . . comprises: *controlling the environmental factor via monitoring a temperature sensor.*" Claim 70 recites "the method of Claim 69, wherein said controlling the environmental factor via monitoring a pressure sensor comprises: *controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the temperature sensor and adjusting a temperature driver.*" Applicant points out that at no point does Loedding mention temperature in any fashion. Consequently, Loedding does not and

cannot teach the recitations of Applicant's Claims 68-70. Thus, Applicant respectfully asks Examiner to allow Claims 68-70 over Loedding for at least the foregoing reasons.

**g) Claims 71-73 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 71 recites "the method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises: maintaining an environmental factor via feedback control, *wherein the environmental factor is a humidity of the inhalant chamber.*" Claim 72 recites "the method of Claim 71, wherein said maintaining an environmental factor via feedback control . . . comprises: *controlling the environmental factor via monitoring a* humidity *sensor.*" Claim 73 recites "the method of claim 72, wherein said controlling the environmental factor via monitoring a pressure sensor comprises: *controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the humidity sensor and adjusting a* humidity *driver.*" Applicant points out that at no point does Loedding mention humidity in any fashion. Consequently, Loedding does not and cannot teach the recitations of Applicant's Claims 71-73. Thus, Applicant respectfully asks Examiner to allow Claims 71-73 over Loedding for at least the foregoing reasons.

**h) Claims 74-76 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 74 recites "the method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises: maintaining an environmental factor via feedback control, *wherein the environmental factor is an airflow in to the inhalant chamber.*" Claim 75 recites "the method of Claim 74, wherein said maintaining an environmental factor via feedback control . . . comprises: *controlling the environmental factor via monitoring an input airflow sensor.*" Claim 76 recites "the method of claim 75, wherein said controlling the environmental factor via monitoring an input airflow comprises: *controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the* input airflow sensor *and adjusting an* input airflow *driver.*" Applicant points out that at no point does Loedding mention "maintaining an environmental factor via feedback control, *wherein the*

*environmental factor is an airflow in to the inhalant chamber.*" As noted above, Loedding teaches maintaining an inhalant concentration via feedback control, and one way in which Loedding teaches such maintaining is via control of an input airflow. Thus, as can be seen from teachings of Loedding, Loedding does not *maintain* an airflow; rather, Loedding *maintains* a *concentration* and *controls* an *airflow* in order to *maintain the concentration.* In addition, as noted above, in Applicant's claims "environment" and "concentration" are different, and Loedding does not show airflow as a controlled environmental factor. Consequently, Loedding does not teach the recitations of Applicant's Claims 74-76. Thus, Applicant respectfully asks Examiner to allow Claims 74-76 over Loedding for at least the foregoing reasons.

**i) Claims 77-79 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 77 recites "the method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises: *maintaining* an *environmental factor via feedback control, wherein the environmental factor is an exhaust* airflow out of the inhalant chamber." Claim 78 recites "the method of Claim 77, wherein said maintaining an environmental factor via feedback control . . . comprises: *controlling the environmental factor via monitoring an exhaust* output *airflow sensor.*" Claim 79 recites "the method of Claim 78, wherein said controlling the environmental factor via monitoring an output airflow sensor comprises: *controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the* output *airflow sensor and adjusting an exhaust* output *airflow driver.*" Applicant points out that at no point does Loedding mention "maintaining an environmental factor via feedback control, *wherein the environmental factor is an exhaust airflow out of the inhalant chamber.*" As noted above, Loedding teaches "measuring device 15 also includes an air supply connection 21 and a vacuum connection 22 for establishing an air flow through the measuring device which aspirates an aerosol sample to be measured into the photometer 15 through line 18." However, Applicant points out that this is not an exhaust airflow in that Loedding teaches

> The vacuum connection on the measuring device 15 is turned on so that a sample of the aerosol is aspirated from exposure chamber 17 through line 18 to the

> measuring device. More air will be drawn off than through the vacuum line 38 than is supplied through the air supply line 37. The difference will be drawn in through the aerosol sampling duct 18. The concentration of the aerosol sample is measured in the measuring device 15, and the measured value (e.g. in mV) is shown on a digital display 39 and is also used by control computer 16 which is connected to the photometer output terminals to control the pump rate and the flow of compressed air and dilution air in order to maintain the desired aerosol concentration.

*Loedding*, col. 9, lines 3-16. And Loedding also teaches "the volume of the diverted sample need not be large; for example, a flow of about 0.3 liters per minute is satisfactory. The diverted sample is conveyed through line 18 to a measuring device or detector 15, which forms part of the measuring and control unit and where the concentration of the aerosol is measured." *Id.* at col. 7, line 67 - col. 8 line 1. Hence, as seen from the foregoing, the only outflow at all described in Loedding is that of a "diverted sample" used by the aerosol concentration "measuring and control unit," and therefore Loedding's very small outflow cannot be controlling an environment of the inhalant chamber of Loedding since it is sampling that environment. Hence Loedding does not teach at least the foregoing-italicized portions of Applicant's Claims 77-79. Thus, Applicant respectfully asks Examiner to allow Claims 77-79 over Loedding for at least the foregoing reasons.

**j) Claims 82-86 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claims 82-86 respectively claim "the method of claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises: dispersing a substance having a" "gaseous substance form," "mist form," "fog form," "fume form," and an "airborne substance form." Loedding does not show or suggest any of the foregoing recitations. Accordingly, Applicant respectfully asks Examiner to allow Claims 82-86 over Loedding for at least the foregoing reasons.

**k) Claims 87, 89 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claims 87, 89 respectively claim "controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input

from" "a chamber pressure monitor," and "a gas sensor." Loedding does not show or suggest any of the foregoing recitations. Accordingly, Applicant respectfully asks Examiner to allow Claims 87 and 89 over Loedding for at least the foregoing reasons.

**l) Claims 90-94 Are Independently Patentable for at Least the Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 90 recites, "the method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises: controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant." Claims 91-94 respectively recite "controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from" "an inhalant concentration sensor," "a gas sensor," "an input airflow sensor," and "an output airflow sensor." Applicant respectfully points out that at no point does Loedding ever show or discuss the foregoing recitations of Claims 90-94. Accordingly, the art of record does not establish a *prima facie* case of unpatentability with respect to Claims 90-94 and Applicant respectfully asks Examiner to allow Claims 90-94 over Loedding for at least the foregoing reasons.

**m) Claims 32, 33, 34, and 95-99 Are Independently Patentable for at Least The Reasons That No *Prima Facie* Case of the Unpatentability of Such Claims Has Been Established**

Claim 32 recites "displaying near real time measurement data related to an animal in the inhalant chamber." Claims 33, 34, 95-99 respectively recite, "the method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises: displaying" "animal-related respiration data," "a pressure of the inhalant chamber," "animal-related dosimetry data," "a temperature of the inhalant chamber," "a humidity of the inhalant chamber," "an airflow into the inhalant chamber," and "an airflow out of the inhalant chamber." Applicant respectfully points out that at no point does Loedding ever show or discuss the foregoing recitations of Claims 32, 33, 34, and 95-99. Accordingly, the art of record does not establish a *prima facie* case of unpatentability with respect to Claims 32, 33, 34, and 95-99 and Applicant respectfully asks Examiner to allow Claims 32, 33, 34, and 95-99 over Loedding for at least the foregoing reasons.

## II. 112 6th Para. Claims 35-46, and 100-133 Are Independently Patentable

As noted above, Examiner has not established a *prima facie* case of unpatentability of any of Applicant's pending method claims. Claims 35-46, and 100-133 are "means for" versions of such method claims. Insofar as Examiner has not established a *prima facie* case of unpatentability of such method claims, it necessarily follows that Examiner has not established a *prima facie* case of unpatentability of the "means for" versions of such claims, in that Examiner has yet to identify any art that teaches the function of such claims. Accordingly, Applicant respectfully requests that Examiner allow Claims 35-46 and 100-133 over Loedding.

## III. CONCLUSION

Applicant has shown above that the art of record does not establish a *prima facie* case of unpatentability of any pending claim.

In light of the above amendments and remarks, Applicant respectfully submits that all pending claims are allowable. Applicant, therefore, respectfully requests that the Examiner reconsider this application and timely allow all pending claims. The Examiner is encouraged to contact Mr. Cook by telephone to discuss the above and any other distinctions between the claims and the applied references, if desired. If the Examiner notes any informalities in the claims, he is encouraged to contact Mr. Cook by telephone to expediently correct such informalities.

Patentability now established, the remainder of the rejections are rendered moot, and hence Applicant does not explicitly address such moot rejections herein. The fact that the moot rejections are not addressed should not be taken as an admission of any sort, and Applicant reserves the right to contest the statements in such moot rejections at a later time, should such become necessary.

The Commissioner is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 21-0380.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version With Markings to Show Changes Made.**" If a conflict arises between the clean copy and the attached "**Version With Markings to Show Changes Made,**" this statement constitutes public notice that

Applicants respectfully request that their intent is that the version with changes made be considered controlling.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

Chad J. Roy et al.

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 25, 26, 28-31, 37, 38, and 40-43 have been canceled.

Claims 24, 33, 34, 36, 45, and 46 have been amended as follows:

23. (Original) A method comprising:

automatically controlling an environment of an inhalant chamber; and

automatically controlling a concentration of an inhalant in the inhalant chamber.

24. (Currently Amended) The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining ~~one or more~~an environmental factors via feedback control, wherein ~~said one or more~~the environmental factors ~~are selected from an environmental factor group including~~ includes a pressure~~, temperature, humidity, airflow in to the inhalant chamber, and airflow out~~ of the inhalant chamber.

25. (~~Original~~Deleted) ~~The method of Claim 24, wherein said maintaining one or more environmental factors via feedback control comprises:~~

~~controlling the one or more environmental factors via monitoring one or more environmental sensors selected from an environmental sensor group including a pressure sensor, a temperature sensor, a humidity sensor, an input airflow sensor, and an output airflow sensor.~~

26. (Deleted~~Original~~) ~~The method of Claim 25, wherein said controlling the one or more environmental factors via monitoring one or more environmental sensors comprises:~~

~~controlling the one or more environmental factors via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from the one or more environmental sensors and respectively adjusting one or more environmental drivers selected from the environmental driver group including a pressure driver, a temperature driver, a humidity driver, an input airflow driver, and an output airflow driver.~~

27. (Original) The method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices.

28. (~~Original~~Deleted) ~~The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:~~

~~dispersing a substance having a form selected from an inhalant form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.~~

29. (~~Original~~Deleted) ~~The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:~~

~~controlling the one or more inhalant dissemination devices via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more dissemination related sensors selected from the dissemination related sensor group including a chamber pressure monitor, an inhalant concentration sensor, and a gas sensor.~~

30. (~~Original~~Deleted) ~~The method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises:~~

~~controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant.~~

31. (~~Original~~Deleted) ~~The method of Claim 30, wherein said controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:~~

~~controlling the flow rate either into or out of the inhalant chamber via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more~~

~~concentration-related sensors selected from a concentration-related-sensor group including a chamber pressure monitor, an inhalant-concentration sensor, a gas sensor, an input airflow sensor, and an output airflow sensor.~~

32. (Original) The method of Claim 23 further comprising:

displaying near real time measurement data related to an animal in the inhalant chamber.

33. (Currently Amended) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying ~~one or more~~ animal-related ~~factors, wherein said one or more animal-related factors are selected from the animal-related-factor group including to~~ respiration data~~, and dosimetry data~~.

34. (Currently Amended) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying ~~one or more environmental factors, wherein said one or more environmental factors are selected from an environmental-factor group including~~ a pressure~~, temperature, humidity, and airflow into the inhalant chamber, and airflow out~~ of the inhalant chamber.

35. (Original) A system comprising:

means for automatically controlling an environment of an inhalant chamber; and

means for automatically controlling a concentration of an inhalant in the inhalant chamber.

36. (Currently Amended) The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

maintaining an environmental factor via feedback control, wherein the environmental factor includes a pressure of the inhalant chamber~~means for maintaining one or more environmental factors via feedback control, wherein said one or more environmental factors are selected from an environmental factor group including pressure, temperature, humidity, airflow in to the inhalant chamber, and airflow out of the inhalant chamber~~.

37. (Deleted~~Original~~) ~~The system of Claim 36, wherein said means for maintaining one or more environmental factors via feedback control comprises:~~

~~means for controlling the one or more environmental factors via monitoring one or more environmental sensors selected from an environmental sensor group including a pressure sensor, a temperature sensor, a humidity sensor, an input airflow sensor, and an output airflow sensor.~~

38. (Deleted~~Original~~) ~~The system of Claim 37, wherein said means for controlling the one or more environmental factors via monitoring one or more environmental sensors comprises:~~

~~means for controlling the one or more environmental factors via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from the one or more environmental sensors and respectively adjusting one or more environmental drivers selected from the environmental driver group including a pressure driver, a temperature driver, a humidity driver, an input airflow driver, and an output airflow driver.~~

39. (Original) The system of Claim 35, wherein said means for automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices.

40. (Deleted~~Original~~) ~~The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:~~

~~means for dispersing a substance having a form selected from an inhalant form group including a wet aerosol form, a dry aerosol form, a gaseous substance form, mist form, a fog form, a fume form, and an airborne substance form.~~

41. (Deleted~~Original~~) ~~The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:~~

~~means for controlling the one or more inhalant dissemination devices via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from one or more dissemination related sensors selected from the dissemination related sensor group including a chamber pressure monitor, an inhalant concentration sensor, and a gas sensor.~~

42. (Deleted~~Original~~) ~~The system of Claim 35, wherein said means for automatically controlling a concentration of an inhalant in the inhalant chamber comprises:~~

~~means for controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant.~~

43. (Deleted~~Original~~) ~~The system of Claim 42, wherein said means for controlling a flow rate either into or out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:~~

~~means for controlling the flow rate either into or out of the inhalant chamber via one or more Proportional Integral Derivative (PID) controllers respectively receiving input from~~

~~one or more concentration related sensors selected from a concentration related sensor group including a chamber pressure monitor, an inhalant concentration sensor, a gas sensor, an input airflow sensor, and an output airflow sensor.~~

44. (Original) The system of Claim 35 further comprising:

means for displaying near real time measurement data related to an animal in the inhalant chamber.

45. (Currently Amended) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying ~~one or more~~ animal-related ~~factors, wherein said one or more animal related factors are selected from the animal related factor group including to~~ respiration data~~, and dosimetry data~~.

46. (Currently Amended) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying ~~one or more environmental factors, wherein said one or more environmental factors are selected from an environmental factor group including~~ a pressure~~, temperature, humidity, and airflow into the inhalant chamber, and airflow out~~ of the inhalant chamber.

66. (New) The method of Claim 24, wherein said maintaining an environmental factor via feedback control, wherein the environmental factor is a pressure of the inhalant chamber comprises:

controlling the environmental factor via monitoring a pressure sensor of the inhalant chamber.

67. (New) The method of Claim 66, wherein said controlling the environmental factor via monitoring a pressure sensor of the inhalant chamber comprises:

controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the pressure sensor and adjusting a pressure driver.

68. (New) The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining an environmental factor via feedback control, wherein the environmental factor is a temperature of the inhalant chamber.

69. (New) The method of Claim 68, wherein said maintaining an environmental factor via feedback control, wherein the environmental factor is a temperature of the inhalant chamber comprises:

controlling the environmental factor via monitoring a temperature sensor.

70. (New) The method of Claim 69, wherein said controlling the environmental factor via monitoring a temperature sensor comprises:

controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the temperature sensor and adjusting a temperature driver.

71. (New) The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining an environmental factor via feedback control, wherein the environmental factor includes a humidity of the inhalant chamber.

72. (New) The method of Claim 71, wherein said maintaining an environmental factor via feedback control, wherein the environmental factor includes a humidity of the inhalant chamber comprises:

controlling the environmental factor via monitoring a humidity sensor.

73. (New) The method of Claim 72, wherein said controlling the environmental factor via monitoring a humidity sensor comprises:

controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the humidity sensor and adjusting a humidity driver.

74. (New) The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow in to the inhalant chamber.

75. (New) The method of Claim 74, wherein said maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow in to the inhalant chamber comprises:

controlling the environmental factor via monitoring an input airflow sensor.

76. (New) The method of Claim 75, wherein said controlling the environmental factor via monitoring an input airflow sensor comprises:

controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the input airflow sensor and adjusting an input airflow driver.

77. (New) The method of Claim 23, wherein said automatically controlling an environment of an inhalant chamber comprises:

maintaining an environmental factor via feedback control, wherein the environmental factor includes an exhaust airflow out of the inhalant chamber.

78. (New) The method of Claim 77, wherein said maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow out of the inhalant chamber comprises:

controlling the environmental factor via monitoring an exhaust output airflow sensor.

79. (New) The method of Claim 78, wherein said controlling the environmental factor via monitoring an exhaust output airflow sensor comprises:

controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the output airflow sensor and adjusting an exhaust output airflow driver.

80. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a wet aerosol form.

81. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a dry aerosol form.

82. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a gaseous substance form.

83. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a mist form.

84. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a fog form.

85. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having a fume form.

86. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

dispersing a substance having an airborne substance form.

87. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from a chamber pressure monitor.

88. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from an inhalant-concentration sensor.

89. (New) The method of Claim 27, wherein said dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from a gas sensor.

90. (New) The method of Claim 23, wherein said automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant.

91. (New) The method of Claim 90, wherein said controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an inhalant concentration sensor

92. (New) The method of Claim 90, wherein said controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from a gas sensor.

93. (New) The method of Claim 90, wherein said controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an input airflow sensor.

94. (New) The method of Claim 90, wherein said controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an output airflow sensor.

95. (New) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying animal-related dosimetry data.

96. (New) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying a temperature of the inhalant chamber.

97. (New) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying a humidity of the inhalant chamber.

98. (New) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying an airflow into the inhalant chamber.

99. (New) The method of Claim 32, wherein said displaying near real time measurement data related to an animal in an inhalant chamber comprises:

displaying an airflow out of the inhalant chamber.

100. (New) The system of Claim 36, wherein said means for maintaining an environmental factor via feedback control, wherein the environmental factor is a pressure of the inhalant chamber comprises:

means for controlling the environmental factor via monitoring a pressure sensor of the inhalant chamber.

101. (New) The system of Claim 100, wherein said means for controlling the environmental factor via monitoring a pressure sensor of the inhalant chamber comprises:

means for controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the pressure sensor and adjusting a pressure driver.

102. (New) The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

means for maintaining an environmental factor via feedback control, wherein the environmental factor is a temperature of the inhalant chamber.

103. (New) The system of Claim 102, wherein said means for maintaining an environmental factor via feedback control, wherein the environmental factor is a temperature of the inhalant chamber comprises:

means for controlling the environmental factor via monitoring a temperature sensor.

104. (New) The system of Claim 103, wherein said means for controlling the environmental factor via monitoring a temperature sensor comprises:

means for controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the temperature sensor and adjusting a temperature driver.

105. (New) The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

means for maintaining an environmental factor via feedback control, wherein the environmental factor includes a humidity of the inhalant chamber.

106. (New) The system of Claim 105, wherein said means for maintaining an environmental factor via feedback control, wherein the environmental factor includes a humidity of the inhalant chamber comprises:

means for controlling the environmental factor via monitoring a humidity sensor.

107. (New) The system of Claim 106, wherein said means for controlling the environmental factor via monitoring a humidity sensor comprises:

means for controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the humidity sensor and adjusting a humidity driver.

108. (New) The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

means for maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow in to the inhalant chamber.

109. (New) The system of Claim 108, wherein said means for maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow in to the inhalant chamber comprises:

means for controlling the environmental factor via monitoring an input airflow sensor.

110. (New) The system of Claim 109, wherein said means for controlling the environmental factor via monitoring an input airflow sensor comprises:

means for controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the input airflow sensor and adjusting an input airflow driver.

111. (New) The system of Claim 35, wherein said means for automatically controlling an environment of an inhalant chamber comprises:

means for maintaining an environmental factor via feedback control, wherein the environmental factor includes an exhaust airflow out of the inhalant chamber.

112. (New) The system of Claim 111, wherein said means for maintaining an environmental factor via feedback control, wherein the environmental factor includes an airflow out of the inhalant chamber comprises:

means for controlling the environmental factor via monitoring an exhaust output airflow sensor.

113. (New) The system of Claim 112, wherein said means for controlling the environmental factor via monitoring an exhaust output airflow sensor comprises:

means for controlling the environmental factor via a Proportional Integral Derivative (PID) controller receiving input from the output airflow sensor and adjusting an exhaust output airflow driver.

114. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a wet aerosol form.

115. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a dry aerosol form.

116. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a gaseous substance form.

117. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a mist form.

118. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a fog form.

119. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having a fume form.

120. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for dispersing a substance having an airborne substance form.

121. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from a chamber pressure monitor.

122. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from an inhalant-concentration sensor.

123. (New) The system of Claim 39, wherein said means for dispersing either an organic or inorganic substance via electronic control of one or more inhalant dissemination devices comprises:

means for controlling the one or more inhalant dissemination devices via a Proportional Integral Derivative (PID) controller receiving input from a gas sensor.

124. (New) The system of Claim 35, wherein said means for automatically controlling a concentration of an inhalant in the inhalant chamber comprises:

means for controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant.

125. (New) The system of Claim 124, wherein said means for controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

means for controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an inhalant concentration sensor

126. (New) The system of Claim 124, wherein said means for controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

means for controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from a gas sensor.

127. (New) The system of Claim 124, wherein said means for controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

means for controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an input airflow sensor.

128. (New) The system of Claim 124, wherein said means for controlling a flow rate out of the inhalant chamber in response to a specified dispensement of the inhalant comprises:

means for controlling the flow rate out of the inhalant chamber via a Proportional Integral Derivative (PID) controller receiving input from an output airflow sensor.

129. (New) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying animal-related dosimetry data.

130. (New) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying a temperature of the inhalant chamber.

131. (New) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying a humidity of the inhalant chamber.

132. (New) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying an airflow into the inhalant chamber.

133. (New) The system of Claim 44, wherein said means for displaying near real time measurement data related to an animal in an inhalant chamber comprises:

means for displaying an airflow out of the inhalant chamber.